NOTES ON BUTTERFLIES FROM THE NAGA HILLS.

BY

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(*With Plate A.*)

PART I.

The only account of butterflies from the Naga Hills, as far as I am aware, is that by Mr. H. J. Elwes, P. Z. S., 1891, p. 249, and 1892, p. 647; in these notes Mr. Elwes gives a list of the rarer and more interesting butterflies collected in the years 1889 and 1890 by Mr. Doherty in the Naga and Karen Hills and in Perak and also a few in the Assam valley.

In these notes I have included all the commoner butterflies most of which were probably taken by Mr. Doherty, but not mentioned by Mr. Elwes, and also a few not found by him; this is by no means a complete list and no doubt many other forms will turn up especially amongst the Lycænidæ and Hesperiidæ.

As far as possible I have given exact dates, localities and altitudes where the insects were captured and hope this will assist future collectors when working these interesting hills.

Since Mr. Doherty visited these hills the Assam Bengal Railway has been built and passes within a march of Nichuguard on the frontier, and so access to these hills is now very much easier.

The area collected over by myself and my collectors consists of—

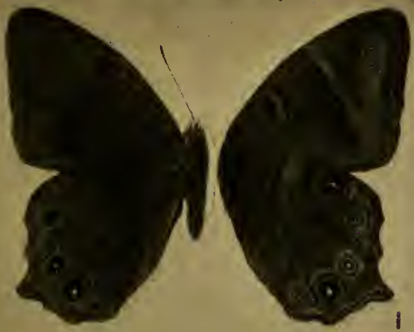
(1) The low country at the foot of the hills between Nichuguard, about 700 ft. and Gaspani, 1,700 ft.; this consists almost entirely of fine forest and is excellent collecting ground.

(2) The country close to Kohima from 3,000 ft. to 5,000 ft., here the hillsides are extensively cultivated and what little forest there is is of recent growth, consequently good butterflies are not plentiful.

(3) The country above the cart road between Kohima and Maothana, on the Manipur frontier, from 5,000 ft. to 7,000 ft.; this is grand collecting ground, the hills are steep and covered with thick virgin forest.

Explanation of Plate A.

Fig. 1. Lethe brisandra, *de N.* ♂
,, 2. ,, ,, ,, ♀
,, 3. ,, dinarbas, *Hewitson* ♂
,, 4. ,, ,, ,, ♀
,, 5. Apatura florenciæ, *n. sp.* ♂ upperside.
,, 6. ,, ,, ,, ♂ underside.
,, 7. Cyllogenes janetæ, *de. N.* ♀



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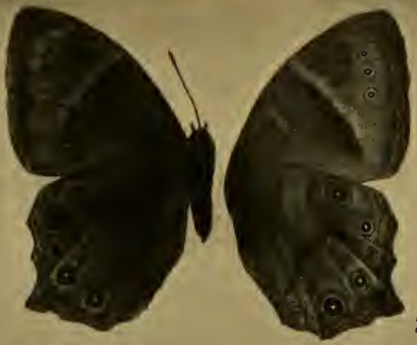

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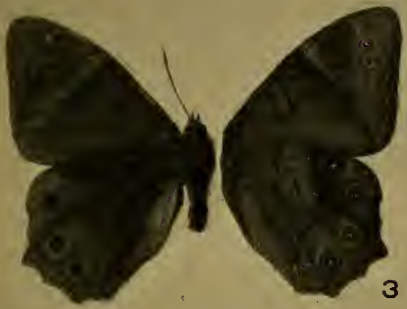

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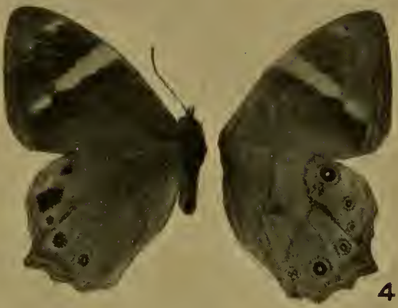

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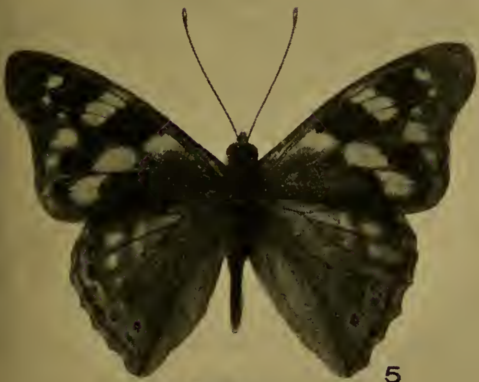

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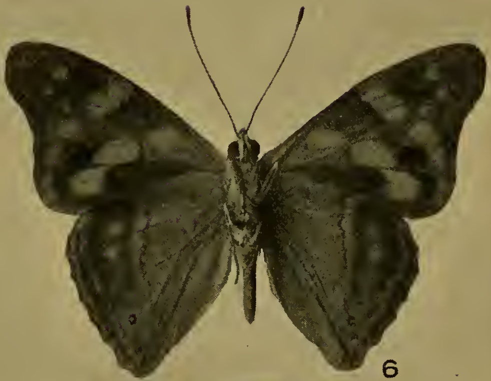

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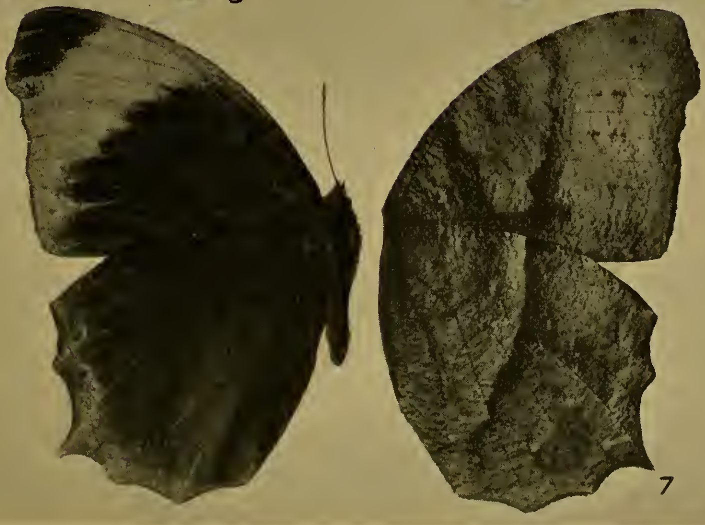

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NAGA HILL BUTTERFLIES.

(4) A few specimens were also obtained at Tamlu, at the Northern extremity of the Naga Hills, and given to me very kindly by Capt. Bliss.

FAMILY—NYMPHALIDÆ.

Sub-family—DANAINÆ.

1. **Danais plexippus,** *L.*—Occurs from the foot of the hills up to 5,000 ft. throughout the year.

2. **Danais chrysippus,** *L.*—A few specimens obtained at the foot of the hills in January and February.

3. **Danais tytia,** *Gray.*—Common near Kohima from August to October, one specimen obtained at the foot of the hills in February.

4. **Danais melanea,** *Cramer.*—Not common, a few specimens obtained near Kohima from August to October.

5. **Danais limniace,** *Cramer.*—Not very common, specimens were obtained at the foot of the hills in November and at Kohima from April to August.

6. **Danais septentrionis,** *Butler.*—Occurs commonly near Kohima from August to November, a few specimens were obtained at the foot of the hills in January and February.

7. **Danais melanoides,** *Moore.*—Common at the foot of the hills in February and March, and in the vicinity of Kohima from August to November.

8. **Euplœa hopei,** *Felder.*—Taken at the foot of the hills in March and October and near Kohima in April and May ; in the latter month it is very common.

9. **Euplœa alcathoe,** *Godart.*—Not common, taken at the foot of the hills in February, April, July and November.

10. **Euplœa dione,** *Westwood.*—I have not obtained this butterfly but it is included in Mr. J. L. Sherwill's list of butterflies from the Naga Hills.

11. **Euplœa diocletiana,** *Fabr.*—A common butterfly, taken at low elevations throughout the year; females are rare.

12. **Euplœa klugii,** *Moore.*—Two specimens of the form *indigofera,* Moore, were obtained at the foot of the hills in May.

13. **Euplœa splendens,** *Butler.*—Not common, taken at low elevations in January, May, August and November and a single specimen at 5,000 ft. in November.

14. **Euplœa mulciber,** *Cramer.*—An extremely common butterfly throughout the year from the foot of the hills up to 6,000 ft.

Sub-family—SATYRINÆ.

15. **Mycalesis anaxias,** *Hewitson.*—Mr. Moore records this from the Naga Hills but I have not yet obtained it.

16. **Mycalesis sanatana,** *Moore.*—A few wet season forms were obtained in May, October and November, and a single dry season form in May all at about 5,000 ft.

17. **Mycalesis charaka,** *Moore.*—Mr. Moore records this species from the Naga Hills.

18. **Mycalesis orseis,** *Hewitson.*—Recorded from the Naga Hills, but I have not met with it yet.

19. **Mycalesis mineus,** *Linn.*—Dry season forms were obtained at the foot of the hills in February and at Kohima commonly in October and November. Wet seasons forms occurred commonly at Kohima from August to October.

20. **Mycalesis visala,** *Moore.*—Two wet season forms were obtained at the foot of the hills in May and dry season forms at 2,000 ft. to 5,000 ft. in October and November.

21. **Mycalesis malsarida,** *Butler.*—Recorded from the Naga Hills but I have not met with it.

22. **Mycalesis malsara,** *Moore.*—A single dry season form was obtained at Phiphima, 4,000 ft. in February.

23. **Mycalesis lepcha,** *Moore.*—Dry season forms obtained at Gaspani. 2,000 ft. and at Kohima in March and April, and wet season forms at Kohima in August and October.

24. **Mycalesis nicotia,** *Hewitson.*—A single male, wet season form, was obtained at Kohima in August.

25. **Orsotriœna meda,** *Fabr.*—A single male taken at 5,000 ft.

26. **Lethe rohria,** *Fabr.*—Males common at Kohima and at the foot of the hills, April to November. Females rare.

27. **Lethe dinarbas,** *Hewitson.*—Pl. A, figs. 3 ♂, 4 ♀. Three males and three females taken at 7,000 ft. in September and a male at 6,000 ft. in October.

28. **Lethe brisanda,** *de N.*—Pl. A, figs. 1 ♂, 2 ♀. Three males and a female at 7,000 ft. and two males at 5,500 ft. taken in September and November. Bingham considers that *L. dinarbas* and *L. brisanda* to be merely races of *L. insana.* I however consider that *L. brisanda* is specifically distinct from *L. dinarbas*; the differences are clearly shewn in the figures on plate A. Both these forms, *i.e.*, *brisanda* and *dinarbas* fly together and I do not consider it possible for races of one species to do this.

The female taken is very different to the form figured in Moore's Lep. Ind. vol. 1, pl. 85. fig. 3 (*a*), but I have no doubt that I have identified it correctly as the characteristic markings are the same as in the male. In Moore's figure they certainly are not. Mr. Heron who kindly examined it for me is also of the opinion that it is the female of *L. brisanda.*

I give a description of it as it does not agree with de Nicéville's original description. *Upperside,* as in male but paler, the discal band on forewing slightly broader and paler, beyond it three of the subapical ocelli of the underside shew through as black spots on a pale ground of the same colour as the discal band; above these spots inclined inwards are two pale brown diffuse spots in interspaces 6 and 7, the upper one minute. Hindwing with all the spots more conspicuous than in the male, those in interspaces 2 and 3 centred with white and distinctly encircled with yellowish brown, that in interspace 4 indistinctly encircled with the same colour and with no white pupil, those in interspaces 5 and 6 diffuse and blind and not encircled with an outer ring. The geminate spot in interspace 1 on the underside does not show through.

Underside as in male but paler: forewing, the discal band a little more curved, broader and paler; the area between it and the submarginal lines near the tornal angle yellowish brown; above which are four submarginal spots placed on a lilacine ground in interspaces 3, 4, 5 and 6; the lower three being black with white pupils, encircled with yellow and a narrow outer ring of darker colour; the upper spot lilacine with a dark outer ring. Hindwing as in male but lighter and the yellow rings round the occelli brighter.

The male and female can at once be distinguished from the same sexes of *Lethe dinarbas* as follows:—

(1) In *L. brisanda* the discal band is directed towards a point on the dorsum short of the tornal angle, whereas in *L. dinarbas* it is directed either towards the tornal angle, or to a point on the termen above it.

(2) The submarginal spots on the underside of the forewing in *L. brisanda* are four, in *L. dinarbas* three.

(3) The termen of the hindwing at vein 4 in *L. brisanda* is prolonged into a more distinct tooth than in *L. dinarbas* and gives the wing a different appearance.

In addition to the above differences the female of *L. brisanda* has the discal band narrow, pale-brown and curved, the female of *L. dinarbas* has it broad pure white and straight.

29. **Lethe confusa,** *Aurivillius.*—The wet season form is common at Kohima from July to October and the dry season form which appears to be undescribed was taken commonly from the foot of the hills up to 3,000 feet in February and April.

Description of the dry season form.—

Upperside: the same as in the wet season form except that on the hindwing the submarginal ocelli are more conspicuous and in some specimens distinctly ringed with yellow. *Underside*: differs from the wet season form as follows: the ground colour between the discal band and the apex of the forewing and also that on the anterior sides of the discal and discoidal bands rich chocolate brown, this colour filling the apex of the cell; the rest of the wing grey brown; the submarginal spots are partially ringed with whitish or ochreous lilacine and not with bright lilacine as in the wet season form; the areas between the upper two spots and the termen whitish and diffuse. Hindwing, the discoidal band anteriorly and the discal band posteriorly bordered with rich chocolate brown, the latter band more angled at its middle than in the wet season form; the areas between the discal and discoidal bands and the basal area extending to the tornus rich grey and the area between the submarginal spots and the submarginal line pale chocolate brown; the submarginal ocelli are more elongated than in the wet season form especially the apical one and the second from the bottom, all the ocelli except the upper one, which is blind, have the pupils more or less disintegrated. Each ocellus separately ringed with whitish lilacine and not enclosed in a common bright lilacine band as in the wet season form; the marginal and submarginal lines are quite distinct, of equal width and yellowish, the submarginal tinged with lilacine. In size the dry season form averages larger than the wet season form.

The dry season form may at once be recognised by the underside, the ground colour of which is dark chocolate and grey crossed by ochreous lilacine bands, in the wet season form the ground colour is uniformly dull brown with all the markings bright lilacine.

30. **Lethe verma,** *Kollar.*—Very common from 5,000 feet to 7,000 feet July to November.

31. **Lethe sidonis,** *Hewitson.*—Males very common, females rather rare at 5,000 to 7,000 feet. Wet season forms were obtained from July to October and large dry season forms in October, the latter do not agree with Moore's figure or description, they are of a much lighter brown than the wet season form on both surfaces; on the underside of the hindwing the 2nd, 3rd and 4th ocelli from the top only have blurred lilacine centres; two intermediate forms were also taken in September and October, both are of the same size as the wet season form but are as pale as the dry season form; in one form the ocelli of the hindwing resemble the rainy season form and in the other they resemble the dry season form.

32. **Lethe siderea,** *Marshall.*—A single male of this rare butterfly was obtained on 21st September near Kohima at 6,500 feet.

33. **Lethe scanda,** *Moore.*—Males not uncommon at 7,000 feet, I did not obtain the female.

34. **Lethe bhairava,** *Moore.*—A few specimens of both sexes were obtained at 7,000 feet in September; from October to December the males are fairly common, the females less so.

35. **Lethe guinihal,** *de N.*—A single male was obtained at Gaspani, 1,700 feet in July.

36. **Lethe latiaris,** *Hewitson.*—Occurs not uncommonly at 5,000—7,000 feet in September and October. Specimens of both sexes were captured in my garden at Kohima.

37. **Lethe kansa,** *Moore.*—Occurs at the foot of the hills from May to August.

38. **Lethe vindhya,** *Felder.*—Three males of the wet season form taken at the foot of the hills in June and July.

39. **Lethe serbonis,** *Hewitson.*—Rather rare. A few males obtained between 6,000 and 7,000 feet in September.

40. **Lethe sinori,** *Hewitson.*—Three males obtained at 5,000 feet in July and October and a female in November.

41. **Lethe chandica,** *Moore.*—Not uncommon. Males obtained at the foot of the hills and at about 1,700 feet from February to November.

42. **Lethe mekara,** *Moore.*—A male taken in May at the foot of the hills and a female in November at Gaspani, 1,700 feet.

43. **Lethe goalpara,** *Moore.*—A pair obtained at 7,000 feet in September.

44. **Lethe sura,** *Doubleday.*—A very common butterfly from July to November. During September and October many males but only two females were taken; in November, however, females predominated, fourteen females being taken and only two males.

45. **Lethe khasiana,** *Moore.*—Two males taken by Mr. Doherty.

46. **Lethe pulahoides,** *Moore.*—Not uncommon at 5,000—6,000 feet in August and September.

47. **Lethe yamoides,** *Moore.*—Recorded from the Naga Hills, but I have not met with it.

48. **Zipœtis scylax,** *Hewitson.*—Recorded from the Naga Hills.

49. **Orinoma damaris,** *Gray.*—Not common, a few specimens taken at 5.000 feet in September and October.

. **Rhaphicera satricus,** *Doubleday.*—A single male obtained at 6,000 feet in September.

51. **Aulocera loha,** *Doherty.*—Two females of an *aulocera* thought by Mr. Elwes to belong to this species were obtained by Mr. Doherty at 8,000 feet in August near Mao on the Manipur frontier of the Naga Hills.

52. **Ypthima baldus,** *Fabr.*—Common. Dry season forms were obtained in February and Wet season forms in August at 4,600 feet.

53. **Ypthima affectata,** *Elwes and Edwards.*—Two males and a famale were taken at 2,000 feet in February.

54. **Ypthima austeni,** *Moore.*—Three males and one female obtained at Kohima, August to October.

55. **Ypthima methora,** *Hewitson.*—Recorded from the Naga Hills.

56. **Ypthima newara ?,** *Moore.*—Not uncommon at Kohima from August to October. Specimens obtained are much smaller than the measurements given by Moore and Bingham, the smallest being 1·46 in expanse and the largest 1·64; the colour of the underside is not so yellow as in a specimen I have from Bhutan. It agrees more with the description of *Y. lycus,* de N., but the basal area does not appear to be darker than the rest of the wing,

57. **Yythima avanta,** *Moore.*—A few specimens obtained at Kohima and at the foot of the hills in January and February.

58. **Ypthima huebneri,** *Kirby.*—A male obtained at the foot of the hills in February and another at Kohima during the same month ; the former agrees with specimens in my collection from Barrackpore, but the latter differs in being much paler and in having the forewings more pointed.

59. **Erebia orixa,** *Moore.*—Fairly common on grass slopes, 6,000—7,000 feet in September and October.

60. **Melanitis ismene,** *Cramer.*—Wet season forms taken commonly at Kohima in August and September, and dry season forms from September to November. A few specimens also obtained at the foot of the hills in August and November.

61. **Melanitis bela,** *Moore.*—Fairly common from the foot of the hills up to 6,000 feet. Dry season forms obtained from February to May and again from August to December and wet season forms in August.

62. **Cyllogenes janetæ,** *de N.*—Pl. A.; fig 7, ♀. A single female of this rare form obtained at 6,000 feet in September. Mr. Doherty secured a male.

63. **Anadebis himachala,** *Moore.*—Taken not uncommonly at low elevations from July to October.

64. **Neorina hilda,** *Westwood.*—A few specimens obtained at 6,500 ft. in September : Naga Hill specimens seem to be smaller than Bhutan specimens, being only 3·5 inches in expanse ; the yellow discal band on the forewing is also paler and of a slightly different tint.

65. **Elymnias undularis,** *Drury.*—Common at the foot of the hills from February to November.

66. **Elymnias malelas,** *Hewitson.*—A few males taken at low elevations in May, July and August.

67. **Elymnias patna,** *Westwood.*—Males obtained at low elevations in July and August.

68. **Elymnias vasudeva,** *Moore*—A single male taken at Gaspani, 1,700 ft., in March.

Sub-family—Morphinæ.

69. **Clerome arcesilaus,** *Fabr.*—Recorded from the Naga Hills but not met with by me.

70. **Amathusia amythaon,** *Doubleday.*—Recorded from the Naga Hills.

71. **Thaumantis diores,** *Westwood.*—Two males taken at low elevations in May and November.

72. **Æmona amathusia,** *Hewitson.*—Recorded from the Naga Hills but must be very rare.

73. **Enispe enthymius,** *Doubleday.*—Two males of the variety *tessellata* Moore, were obtained at 2,000 ft. in February and March.

74. **Enispe cycnus,** *Westwood.*—Several males and two females of this beautiful butterfly were obtained at 6,000 ft. during September and October; they are fond of flying up and down narrow jungle paths and are difficult to catch as the thick jungle prevents the net being handled efficiently.

74*a*. **Discophora tullia,** *Cramer.*—Common at low elevations from March to October.

Sub-family—NYMPHALINÆ.

75. **Charaxes marmax,** *Westwood.*—Taken at the foot of the hills in March. April and August.

76. **Charaxes kahruba,** *Moore.*—Two males taken at Tamlu and Gaspani in August and October.

77. **Charaxes aristogiton,** *Felder.*—Five males obtained at the foot of the hills in April and October.

78. **Charaxes hierax,** *Felder.*—I have not taken typical *hierax* in these hills but it will probably occur; I follow Bingham in considering all the banded forms to be varieties of this form—

(1) Variety, **hipponax,** *Felder.*

Typical forms taken at the foot of the hills in March and April; it is a most variable form and merges into form *jalinder* in one direction and into form *pleistonax* in another; it is impossible to place some of the intermediate forms under any typical varietal form satisfactorily.

(2) Variety, **naganum,** n.

I propose this name for the narrow yellow banded forms which Moore considers to be a variety of *C. hipponax* and which are peculiar to the Naga Hills. It is certainly a very distinct form and worthy of a name. Three males taken in April at the foot of the hills are very small, only measuring 2·85 inches across; rainy season forms taken at Tamlu and at Nichuguard in August are larger.

(3) Variety, **pleistonax,** *Felder.*

A single typical male obtained at Nichuguard in August.

(4) Variety, **khasiana,** *Butler.*

Two typical males taken at the foot of the hills in April and August, the specimen taken in the latter month has the basal area much darker than the male taken in April. Forms intermediate between this and *jalinder* were also obtained.

(5) Variety, **jalinder,** *Butler.*

This is the commonest form: taken at the foot of the hills from February to September.

79. **Charaxes sulphureus,** *Rothch and Jordan.*—Taken sparingly at the foot of the hills in June, October and November.

80. **Eulepis athamas** *Drury*—Taken commonly throughout the year from the foot of the hills up to 5,000 ft.

81. **Eulepis arja,** *Felder.*—Not uncommon at the foot of the hills throughout the year. A single specimen was taken as high as 4,000 ft. in August.

82. **Eulepis Schreiberi,** *Godart.*—Recorded from the Naga Hills.

83. **Eulepis moori,** *Distant.*—Recorded from the Naga Hills.

84. **Eulepis eudamippus,** *Doubleday.*—Not uncommon. Males taken at the foot of the hills in March and April and at Tamlu in August.

85. **Helcyra hemina,** *Hewitson.*—Recorded from the Naga Hills.

86. **Apatura ambica,** *Kollar.*—Males exceedingly common at the foot of the hills throughout the year; a few also taken up to 4,500 ft. in October.

87. **Apatura sordida,** *Moore*—A single male of this rare butterfly was obtained near Kohima at about 5,000 ft. in October and I also received a female from the adjacent state of Manipur taken in November. I believe this form has hitherto only been recorded from Sikhim.

88. **Apatura chevana,** *Moore.*—A single male of this beautiful butterfly was taken at the foot of the hills in July.

89. **Apatura parisatis,** *Westwood.*—Males exceedingly common at the foot of the hills throughout the year.

90. **Apatura florenciæ,** n. sp. Pl. A, figs. 5 and 6 ♂ Male. *Upperside*: forewing; basal area brown with a greenish golden sheen; the rest of the wing brownish-black with the following markings:—a yellow discal band composed of three large spots, the upper one almost filling the apex of the cell, the middle one filling the basal third of interspace 2 but not reaching its base and the lower one placed near the tornal angle in interspace 1; a postdiscal transverse band, composed of three yellow linear spots in interspaces 6, 5 and 4, a large diffuse spot in interspace 3 and small diffuse spots in interspaces 2 and 1, commencing at the costa beyond its middle and ending near the tornus; a small diffuse yellow spot beyond the postdiscal band in interspace 4 above which are two white subapical spots in interspaces 5 and 6. Hindwing, dusky greenish-brown with a golden sheen; costal area brownish-black; interspaces 5 and 6 yellowish near their bases and with diffuse yellow spots near their outer thirds, also a minute yellow spot in interspace 4; a black spot ringed with yellow ochre in interspace 2, a submarginal band consisting of yellow ochre lunules inwardly bordered by dark diffuse spots decreasing in width towards the tornal angle and stopping at vein 2; a narrow black marginal line outwardly bordered with yellow ochre.

Underside: pale greenish-yellow somewhat suffused with silvery; forewing, a discal yellow macular band as on upperside but paler, the upper spot inwardly very diffuse, the middle one inwardly bordered with chestnut and the lower one placed in a purplish-grey area which fills interspace 1 and reaches the dorsum; beyond this band in interspace 2 is a large black spot; the postdiscal band as on upperside but paler, the three upper spots greenish or yellowish-white inwardly bordered with chestnut, the lower spots very indistinct; subapical spots as on upperside; a pale chestnut marginal line bordered on both sides with greenish-white. Hindwing: a greenish-white discal band, inwardly bordered with chestnut as far as vein 2, commencing a little beyond the middle of the costa, where it bends sharply outwards, slightly curves outwards as far as interspace 4 and then inwards as far as the middle of interspace 2 and then again outwards towards the tornal angle which it does not quite reach; a subtornal black spot, centred with white and ringed with yellow, in interspace 2, above which a postdiscal series of four greenish or yellowish-white spots in interspaces 3, 4, 5 and 6, the lower ones sometimes indistinct; a pale chestnut marginal line bordered on both sides with greenish-white.

Abdomen and thorax: upperside yellowish-brown, underside bluish-grey. Eyes reddish-brown. Palpi reddish-brown above and yellowish-white below. Antennæ blackish-brown above and yellowish-brown below with a little white speckling near the base; club black.

Expanse 2·64—2·72 inches.

This is a well marked form and seems to be intermediate between *A. ulupi*, Doherty, and *A. pallas*, Leech, from both of which it is however quite distinct. It is decidedly a rare butterfly and in two years collecting only nine males were obtained, seven in September and October at 5,000 ft. and two in May at the foot of the hills. The female is apparently still rarer and I did not manage to get one. I was at first inclined to think that this form was *A. ulupi*, but on comparison with the co-type of that species in British Museum it proved abundantly distinct. It can be at once distinguished from *A. ulupi* on the upperside by its darker colour and by the black discal band between the yellow bands being immaculate and not broken up into a distinct spot in interspace 2; and on the underside by its greenish colour, in *ulupi* it is yellow; the discal band on the hindwing is angled in the middle whilst in *ulupi* it is nearly straight.

90. (*a*) **Apatura parvata**, *Moore.*—Apparently very rare. A single male taken at Jakama, 5,000—6,000 feet, in October.

91. **Dilipa morgiana**, *Westwood.*—Rather rare; taken at the foot of the hills in March and June and at 5,000—6,000 ft. from July to October. The female is very rare and I only succeeded in obtaining one in August. Most of the specimens were taken in March and October.

92. **Hestina nama**, *Doubleday.*—Very common throughout the year from the foot of the hills up to 6,000 ft.

93. **Parhestina persimilis**, *Westwood.*—A single male taken at Gaspani. 1,700 ft., in October. Two females were also taken by my Native Collector in Manipur during the same month. I believe this form has not previously been recorded further east than Sikhim.

94. **Euripus halitherses,** *Doubleday.*—Males taken commonly at the foot of the hills and upto 2,000 ft. Also a single specimen as high as Kohima. A few specimens of the female form *isa,* Moore, were obtained in April, July, October and November and a single specimen of the form *cinnamomeus,* Wood-Mason, was obtained at 4,500 ft. in October. The females are by no means common.

95. **Sephisa chandra,** *Moore.*—A single male taken at the foot of the hills in May and several males and a single female (Moore's fourth form) taken near Kohima in September and October. Several more were seen flying round the tops of the trees in my garden. A female was seen as late as December, it was benumbed in the cold and I nearly succeeded in catching it with my fingers, having no net with me at the time. The female differs in structure a good deal from the male in having the palpi much longer than in that sex and in the specimen obtained it is nearly three times as long. This peculiarity, which gives the insect a curious effect, does not appear to be recorded by either de Nicéville, Moore or Bingham.

96. **Neurosigma doubledayi,** *Westwood.*--Recorded from the Naga Hills, but I have not met with it.

97. **Stibochiana nicea,** *Gray.*—Not uncommon at the foot of the hills from January to August and as 5,000—6,000 ft. from September to November. A dry season form taken in January is much smaller, the postdiscal blue band on the hindwing is not sinuous and is better defined ; the subterminal spots have the inner blue border and outer white border broader, the latter almost reaching the termen, the black central spots very small and the terminal black line very narrow ; all the blue markings are much paler and brighter. Figure 2, plate 217, Lep. Ind., vol. iii evidently is intended to represent this extreme dry season form.

98. **Symphœdra khasiana,** *Swinhoe.*—A few specimens taken at the foot of the hills in April, June and October. The males differ from my Bhutan specimens in having the ochreous spots on the forewing more conspicuous and the terminal band more developed in some specimens almost as in S. dirtea, the subterminal band on the hindwing is also bluer and not so violescent. The solitary female taken has all the spots tinged with ochreous. The form from these hills appears to be intermediate between the form from Bhutan and S. dirtea from Burma.

99. **Dophla nara,** *Moore.*—Two males taken in July and eight males in August at 5,000—6,000 ft.

100. **Dophla sahadeva,** *Moore.*—Males not uncommon from July to October at 4,600 to 6,000 ft. Females are rare. Fresh specimens were only obtainable in July and August and towards the end of the latter month all the specimens taken were battered.

101. **Dophla derma,** *Kollar.*—Apparently rare : a single female taken at 1,700 ft. in March and another was seen.

102. **Euthalia lepidea,** *Butler.*—Fairly common at the foot of the hills throughout the year.

103. **Euthalia appiades,** *Ménétriés.*—A few specimens taken at the foot of the hills in February, March and November.

104. **Euthalia jahnu,** *Moore.*—Obtained by Mr. Doherty in the Naga Hills.

105. **Euthalia kesava,** *Moore.*—A few specimens taken at the foot of the hills, April to July.

106. **Euthalia lubentina,** *Cramer.*—Two females taken in April and a male in August at 1,700 ft.

107. **Euthalia franciæ,** *Race* **attenuata,** n.—Under the above name I propose separating the Eastern race of *E. franciæ,* from the Khasia and Naga Hills, from the typical form occurring in Sikhim and Bhutan. It can easily be distinguished by its much darker colour and by the bands being very much narrower; in only one specimen that I have seen is it as broad. The colour of the discal band is very variable; in many specimens there is a tendency for the spot to become white and in some specimens the bands are entirely white. This form is not uncommon at 5,000—6,000 ft. from August to October.

108. **Euthalia phemius,** *Doubleday.*—Occurs at the foot of the hills, a few specimens taken in June, August and October.

109. **Euthalia telchinia,** *Ménétriés.*—A single female taken at Gaspani, 1,700 ft., in July.

110. **Euthalia garuda,** *Moore.*—Not common probably from the absence of its food plant. A single male taken at the foot of the Hills in August is much darker than any specimen I have seen and has the white discal spots very small, the spot in interspace 4 being wanting.

111. **Euthalia jama,** *Felder.*—A single male taken at the foot of the hills in March which is smaller than specimens in my collection from Bhutan and the Khasia Hills being only 2·41 inches in expanse. The markings on the underside are very pale and the white streaks hardly visible.

112. **Euthalia apicalis,** *Vollenhoven.*—A male taken at the foot of the hills in March and a female in June. The male agrees with the figure of *E. eriphyle* de N. as figured in Lep. Ind. iii, pl. 238, (2) and the female agrees with the figure of *E. apicalis,* Lep. Ind. iii, pl. 239, (1b.) except that the discal spots are longer. I have placed both under *E. apicalis* following Bingham who considers *E. eriphyle* de N. to be same as this species.

113. **Parthenos gambrisius,** *Fabr.*—Fairly common at the foot of the hills. The males of the spring brood have the apices very white, whilst in the summer broods there is only a trace of this as if the wings had been slightly rubbed.

114. **Moduza procris,** *Cramer.*—Common throughout the year at low elevations.

115. **Liminitis zayla,** *Doubleday.*—Not uncommon at 6,000—7,000 ft. in the latter half of August and the beginning of September. The females seem to be very rare.

116. **Liminitis daraxa,** *Doubleday.*—Very common, many specimens taken from June to November at the foot of the hills and up to 7,000 ft.

117. **Liminitis dudu,** *Westwood.*—Males rather common at 6,000—7,000 ft. from August to November; a few were also taken at 1,700 ft. in April. Females appear to be very rare and none were taken.

118. **Lebadea martha,** *Fabr.*—Not uncommon at the foot of the hills from June to August.

119. **Auzakia danava,** *Moore.*—A single male taken at 1,700 ft. in August and many males at 5,000—7,000 ft. during September and October. Specimens taken in August and September are larger and darker than those taken in October; one specimen taken in October is as small and pale as specimens from the N.-W. Himalayas but as a rule they are a good deal larger and darker.

120. **Pantoporia inara,** *Doubleday.*—Dry season forms taken at the foot of the hills in February and November and wet season forms in July, August and September.

121. **Pantoporia kanwa,** *Moore.*—Recorded from the Naga Hills, but I have not met with it.

122. **Pantoporia cama,** *Moore.*—Not uncommon; the autumn form which is intermediate between the summer and spring forms was obtained in October and November at 2,000 ft. and up to 5,000 ft. The spring form, which is the smallest and palest, was obtained at 2,000 ft. in April and the summer form, which is the darkest and largest, was taken from the foot of the hills up to 5,000 ft. from June to August.

123. **Pantoporia selenophora,** *Kollar.*—Males very common at low elevations; one was taken as high as 4,600 ft. Small spring broods taken in February, and summer broods from June to October, and one specimen as late as November. The autumn brood which is intermediate between the summer and spring broods began to appear in October, many specimens being taken in November.

124. **Pantoporia zeroca,** *Moore.*—Not very common; dry season forms taken at the foot of the hills in November and wet season forms in July and August at 1,700 ft. to 4,600 ft.

125. **Pantoporia orientalis,** *Elwes.*—This Eastern form of *P. opalina* is not uncommon at 4,500—7,000 ft. from June to November. It differs from *P. opalina* from the N.-W. Himalayas in having the white bands narrower.

126. **Pantoporia ranga,** *Moore.*—A few specimens taken at low elevations from July to November.

127. **Athyma perius,** *Linn.*—An extremely common butterfly throughout the year.

128. **Athyma asura,** *Moore.*—Three males taken at Gaspani, 1,700 ft., in August and October.

129. **Neptis astola,** *Moore.*—Very common; wet season forms taken at Kohima from August to November and dry season forms in February.

130. **Neptis varmona,** *Moore.*—Not so common as the last; dry season forms taken at the foot of the hills and at Kohima in February.

131. **Neptis yerburii,** *Butler.*—Taken at 5,000 ft. from July to November, but not commonly; the form from these hills have the white bands somewhat narrower than the form from the N.-W. Himalayas.

132. **Neptis soma,** *Moore.*—A few specimens taken at the foot of the hills in January and February.

133. **Neptis guilta,** *Swinhoe.*—Recorded from the Naga Hills.

134. **Neptis cartica,** *Moore.*—Recorded from the Naga Hills, but I have not met with it.

135. **Neptis radha,** *Moore.*—Mr. Doherty obtained this in the Naga Hills but it must be very rare.

136. **Neptis ananta,** *Moore.*—Not uncommon from July to October. Two wet season form males taken at the foot of the hills in July and August and many males of the dry season form with pale yellow bands were taken at 5,000—6,000 ft. from August to October; it is curious that I only obtained the form with the dark bands at low elevations and the form with the pale bands at high elevations.

137. **Neptis miah,** *Moore.*—Not uncommon at the foot of the hills in June and July, a single male was also taken in March.

138. **Neptis viraja,** *Moore.*—Recorded from the Naga Hills, but I have not met with it.

139. **Rahinda hordonia,** *Stoll.*—A few males taken at low elevations in February and August.

140. **Cyrestis thyodamas,** *Boisduval.*—A single male was taken at Kohima in September and another was seen; it does not appear to be common.

141. **Chersonesia risa,** *Doubleday.*—Two males obtained at Nichuguard in June.

142. **Junonia iphita,** *Cramer.*—Very common throughout the year in the neighbourhood of Kohima. Dry season forms taken in February, May, November and December, and wet season forms from August to November.

143. **Junonia lemonias,** *L.*—Common at low elevations, not taken above 4,000 ft. The autumn brood is intermediate in coloration and depth of markings between the summer and spring broods, specimens of the latter taken in February are very small and pale underneath.

144. **Junonia orithya,** *Linn.*—A very common butterfly throughout the year in the neighbourhood of Kohima.

145. **Junonia atlites** *Johannson.*—Not common, a few wet season forms taken in October and November at the foot of the hills and below Kohima

4,000 ft. A dry season male taken in February at the foot of the hills is very small and has the apex of the forewing distinctly truncated; on the underside the ocelli are quite wanting and both wings are crossed by a dark conspicuous dark lilacine brownish-grey band.

146. **Junonia hierta,** *Fabricius.*—Fairly common at low elevations.

147. **Junonia almana,** *Linn.*—Not uncommon; dry season forms taken in February and October at the foot of the hills up to 4,500 ft. Wet season forms taken in October.

148. **Vanessa cardui,** *Linn.*—Very common throughout the year at about 5,000 ft.

149. **Vanessa indica,** *Herbst.*—Common throughout the year at 5,000-6,000 ft.

150. **Vanessa canace,** *Johannsen.*—Rather common from July to October at 4,000-6,000 ft.; less plentiful in the Winter.

151. **Araschnia dohertyi,** *Moore.*—Fairly common, appearing first on the wing in August, fresh specimens fly up to the beginning of October. Two worn specimens taken as late as 7th November. Not seen below 5,000 ft., most of the specimens were taken at 6,000-7,000 ft.

Bingham remarks "a slightly divergent form. Differs from *prorsoides* in the white not ochraceous discal band on the upperside of the wings, and the more slender terminal markings."

In his description he also states that most of the markings are *white*. In all my *fresh* specimens these markings are *yellow*, the two spots in interspaces 3 and 4 only inclining to white, in some specimens these also are quite yellow. In some *worn* specimens these yellow markings become whitish and in a few specimens *all* the markings are white on both wings; I think it likely that Bingham's description is based on a worn specimen; Mr. Elwes gives excellent figures of both sexes in his notes on Naga Hill butterflies previously referred to. This butterfly has, I believe, only been recorded from these hills.

152. **Symbrenthia lucina,** *Cramer.*—Common throughout the year. The seasonal forms do not vary much; a specimen taken in February, the height of the dry season is as dark as any wet season form. It occurs from the foot of the hills up to 6,000 ft.

153. **Symbrenthia hypselis,** *Godart.*—Rather common. There appear to be three seasonal forms (1) a large dark form taken commonly at about 5,000 ft. and sparingly at 1,700 ft. from July to November; (2) a small form with broader and paler fulvous markings (*S. cotanda,* Moore) taken in October at 5,000 ft. and at the foot of the hills in February and March; (3) an intermediate form taken at 1,700 ft. in June and July.

154. **Symbrenthia niphanda,** *Moore.*—Rare, only two males and a female obtained in two years' collecting at 5,000-6,000 ft. in August and October.

155. **Rhinopalpa polynice,** *Cramer.*—Recorded from the Naga Hills, but I have not met with it.

156. **Hypolimnas bolina,** *Linn.*—Very common as low elevations throughout the year; rather scarce below Kohima at about 4,000 ft.

157. **Penthema lisarda,** *Doubleday.*—Has been recorded from the Naga Hills.

158. **Doleschallia continentalis,** *Frühstorfer.*—Very common at low elevations from May to July; scarce near Kohima from September to November.

I have not seen *D. malabarica* from South India, but *D. continentalis* from North India and Assam can always be distinguished from the Ceylon form by having the termen at the apex between veins 7 and 9 *concave,* in all Ceylon forms that I have seen it is either straight or even *convex.*

159. **Kallima inachus,** *Boisduval.*—Fairly common from the foot of the hills upto 6,000 ft. from March to November.

160. **Kallima knyvetti,** *de N.*—Rather rare, several males and one female taken at 5,000—3,000 ft. from July to November, my last specimen, a female, being taken on 6th of November. This beautiful butterfly appears to be very local and keeps to thickly wooded ravines; perfect specimens are difficult to obtain.

161. **Cethosia cyane,** *Drury.*—Not common, taken at the foot of the hills upto 4,600 ft. in January and from July to November. It is not nearly so common as *C. biblis.*

162. **Cethosia biblis,** *Drury.*—Exceedingly common at 4,000—7,000 ft. from July to September; a few specimens also taken in January and February at the foot of the hills; these only differ from the summer brood in being smaller. The grey variety of the female was very rare.

163. **Cynthia erota,** *Fabr.*—Males fairly common throughout the year. females rather scarce. Small dry season forms taken at the foot of the hills from January to March; intermediate forms taken at foot of the hills and up to 4,600 ft. in April and November, and wet season forms at foot of the hills up to 4,600 ft. from June to October.

164. **Atella phalantha,** *Drury.*—Common, from August to November from the foot of the hills up to 4,600 ft.

165. **Issoria sinha,** *Kollar.*—Taken commonly at low elevations, April to December, and near Kohima from August to November.

166. **Cupha erymanthis,** *Drury.*—Rather scarce; wet season forms taken at the foot of the hills in May and August and at 4,600 ft. in October; a single male of the dry season form taken at the foot of the hills in the latter half of November.

The wet season form is larger and darker than specimens from Kumaon in my collection.

The dry season form taken in November differs from the wet season form in being smaller and on the upperside paler; underside paler and the markings not so pronounced and without any trace of the reddish-ochreous round discal spots; the yellow discal fascia on the forewing is slightly darker and not such a clear yellow as in the wet season form and almost of the same shade as the ground colour giving the whole of the undersurface a very uniform appearance.

167. **Cirrhochroa mithila,** *Moore*.—Not uncommon: taken at the foot of the hills in May, October and November and at 4,500—5,000 ft. in October.

168. **Cirrhochroa aoris,** *Doubleday*.—Not very common; obtained at the foot of the hills from March to November and at 5,000 ft. in July.

169. **Angynnis childreni,** *Gray*.—Fairly common in gardens at Kohima from July to October.

170. **Argynnis hyperbius,** *Johanssen*.—Very common throughout the year near Kohima.

171. **Ergolis ariadne,** *Johanssen*.—Not uncommon at low elevations in February.

172. **Ergolis merione,** *Cramer*.—A single female taken near Kohima at about 3,000 ft. in October.

173. **Pseudergolis wedah,** *Kollar*.—Not uncommon at 5,000 ft. from August to November.

174. **Calinaga brahma,** *Butler*.—Five males and a female taken in my garden at Kohima in April and May; several more were seen flying round the tree tops; they were difficult to catch as they seldom came within reach of the net. The flight is rather like that of *Danais tytia*.

Sub-family—ACRÆINÆ.

175. **Pareba vesta,** *Fabr*.—Very common in August and September. Numerous pupæ were brought to me at the end of August, all attached to blades of *ekra* grass.

Sub-family—LIBYTHEINÆ.

176. **Libythea lepita,** *Moore*.—A few specimens taken at 1,700 ft. and 5,000 ft. in March and October.

177. **Libythea myrrha,** *Godart*.—Taken sparingly in April and November at 1,700 ft. and in October at 5,000 ft.

FAMILY—NEMEOBIDÆ.

178. **Dodona dipœa,** *Hewitson*.—Taken sparingly from September to December at 5,500—6,500 ft.

179. **Dodona eugenes,** *Bates*.—Taken sparingly at 6,000—7,000 ft. from August to December.

180. **Dodona egeon,** *Doubleday*.—Bingham records this from the Naga Hills. I have not met with it.

181. **Dodona ouida,** *Moore.*—Taken commonly above Kohima 6,000—7,000 ft. during August and September. At the end of November and beginning of December a fresh brood appeared at a lower elevation, when many specimens were taken in my garden in Kohima; this brood averaged smaller than specimens taken in September, the difference in size being especially noticeable in the females.

182. **Dodona adonira,** *Hewitson.*—Rather uncommon. Males taken near running water, sucking up the moisture from the sand, at 5,500—6,500 ft., from October to December. Females were not taken.

183. **Abisara fylla,** *Doubleday.*—Males common, females very rare from August to December at 4,000—7,000 ft.

184. **Abisara neophron,** *Hewitson.*—Recorded from the Naga Hills. I have not met with it.

185. **Abisara chela,** *de N.*—Obtained by Mr. Doherty in the Naga Hills.

186. **Zemeros flegyas,** *Cramer.*—Very common in gardens at Kohima. Three well marked seasonal forms occur.

(1) Summer brood with markings well defined, taken from July to October.

(2) Autumn brood darker and larger than the summer brood taken from September to December.

(3) Winter brood, much smaller and paler than the summer brood with all markings small and indistinct, taken from December to February.

(*To be continued.*)
